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said predetermined time and said time series data pieces for said predetermined times, said state transition information having one of a value indicative of an online state in which the data area is permitted to be retrieved, a value indicative of a loading state in which loading of data in the data area has not yet been completed and the data area is not permitted to be retrieved and a value indicative of a state in which data in the data area is empty.

REMARKS

Initially, the Office Action dated March 30, 2000, the Examiner has objected to claim 15 under 37 CFR §1.75(c) as being of improper dependent form. Further, claims 1-12 and 14-20 have been rejected under 35 USC §103(a) as being unpatentable over U.S. Patent No. 4,648,036 (GALLANT), in view of U.S. Patent No. 4,646,229 (BOYLE).

By the response, Applicants have canceled claim 15. Further, Applicants have amended claims 1, 4, 7, 11, 12, 14, 19 and 20. Claims 1-12, 14 and 16-20 remain pending in the present application.

Claim Objection

Applicants have canceled claim 15. Accordingly, Applicants respectfully request that the objection be withdrawn.

35 USC §103(a) Rejections

Claims 1-12 and 14-20 have been rejected under 35 USC §103(a) as being

unpatentable over GALLANT in view of BOYLE. Applicant's respectfully traverse this rejection.

GALLANT discloses a method for controlling query and update processing in a database system where each changeable data entry in the database is associated with an individual code field. When no update transaction is in progress, every code field is set to a first value. An update transaction changes a system state parameter from a non-update to an update state and marks the code field of data entries to be added with a second value. Code fields of entries to be deleted are marked with a third value after which the system state parameter is set to a post update state. During the update state all queries are given access to entries with first and third code field values. During the post update state, queries are allowed access only to entries with first and second code field values.

BOYLE discloses a database system that includes future versions of the database which are maintained currently in response to orders for future execution. All transactions against the database are time stamped to assure access to the proper version of the database. Queries into the database are time stamped to limit the access to the proper time dependent version of the database.

Regarding claims 1, 4, 7, 12, 14 and 20, Applicants submit that neither GALLANT nor BOYLE taken alone or in any proper combination disclose, suggest or render obvious the limitation in the combination of each of these claims of, inter alia, a plurality of data areas where each of the data areas is loaded data for a certain time, and the plurality of data areas being managed by time series. GALLANT discloses a table for data as well as code fields. BOYLE discloses a structure of a

database system efficient for generating a second database from a first database in response to a request at time one and generating a third database from the second database in response to a request at time two. Neither BOYLE nor GALLANT disclose data areas loaded with data for a certain time. The code fields in GALLANT do not represent a certain time. The time disclosed in BOYLE refers to a time for the entire database not a particular data area, as claimed in the claims of the present application. Neither GALLANT nor BOYLE taken alone or in any proper combination disclose or render obvious data areas loaded with data for a certain time, where the plurality of data areas are managed by time series.

Moreover, Applicants submit that the combination of GALLANT and BOYLE fail to achieve the claimed invention. GALLANT discloses a database system which uses code fields representing a first value, second value or third value which determine whether there is no update transaction in progress, the data entry is to be entered into the database, or the data entry is to be deleted from the database respectively. BOYLE reflects a time stamp on different versions of a database. The combination of GALLANT and BOYLE results in databases with different time stamps where the contents of each database has code fields telling the status of particular data entries (i.e., there is no update transaction in progress, the data entry is to be entered into the database, or the data entry is to be deleted from the database). This combination does not result in a data structure containing a plurality of data areas where each data area is loaded with data for a certain time, and the plurality of data areas are managed by time series as claimed in the claims of the present application. Nor is this limitation in the claims of the present application

obvious from the disclosures of GALLANT and BOYLE.

Regarding claims 2, 3, 5, 6, 8-11 and 16-19, Applicants submit that these claims are dependent on one of independent claims 1, 4, 7, 12, 14 and 20 and, therefore, are patentable at least for the same reasons noted previously regarding these claims.

Accordingly, Applicant's submit that neither GALLANT nor BOYLE taken alone or in any proper combination, disclose, suggest or render obvious the limitations in the combination of each of the claims of the present application. Applicants respectfully request that these rejections be withdrawn and that claims 1-12, 14 and 16-20 be allowed.

In view of the foregoing amendments and remarks, Applicants respectfully submit that claims 1-12, 14 and 16-20 are now in condition for allowance. Accordingly, early allowance of such claims is respectfully requested.

Any amendments to the claims which have been made in this Amendment and which have not been specifically noted to overcome a rejection based on the prior art should be considered to have been made for purposes unrelated to patentability and no estoppel should be deemed to attached thereto.

500.36133X00

To the extent necessary, Applicants petition for an extension of time under 37 CFR §1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees and excess claim fees, to Deposit Account No. 01-2135 (referencing case No. 500.36133X00) and please credit any excess fees to such deposit account.

Respectfully submitted,



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